

## **LISTING OF CLAIMS:**

Claims 1 and 2 (Cancel)

Claim 3 (Currently amended) The surface-modified, pyrogenically produced oxides doped by aerosol, characterized in that the oxides are selected from the group consisting of  $\text{SiO}_2$ ,  $\text{Al}_2\text{O}_3$ ,  $\text{TiO}_2$ ,  $\text{B}_2\text{O}_3$ ,  $\text{ZrO}_2$ ,  $\text{In}_2\text{O}_3$ ,  $\text{ZnO}$ ,  $\text{Fe}_2\text{O}_3$ ,  $\text{Nb}_2\text{O}_5$ ,  $\text{V}_2\text{O}_5$ ,  $\text{WO}_3$ ,  $\text{SnO}_2$  and  $\text{GeO}_2$  according to claim 1 or 2, wherein the surface-is modified with one or several compounds selected from the following groups:

a) Organosilanes ~~mixture~~ having either the formulas  $(\text{RO})_3\text{Si}(\text{C}_n\text{H}_{2n+1})$  or  $(\text{RO})_3\text{Si}(\text{C}_n\text{H}_{2n-1})$ ,  
wherein

R = alkyl, and

n = 1 – 20;

b) Organosilanes ~~mixture~~ having either the formulas  $\text{R}'_x (\text{RO})_y \text{Si}(\text{C}_n\text{H}_{2n+1})$  or  $(\text{RO})_3\text{Si}(\text{C}_n\text{H}_{2n+1})$ , wherein

R = alkyl,

R' = alkyl,

R' = cycloalkyl

n = 1 – 20,

x+y = 3,

x = 1, or 2, and

y = 1, or 2;

c) Halogen organosilanes having either ~~the~~ formulas  $X_3 \text{ Si}(\text{C}_n\text{H}_{2n+1})$  or ~~and~~  $X_3 \text{ Si}(\text{C}_n\text{H}_{2n-1})$ ,  
wherein

X = Cl, or Br, and

n = 1 – 20;

d) Halogen organosilanes having either ~~the~~ formulas  $X_2 (\text{R}') \text{ Si}(\text{C}_n\text{H}_{2n+1})$  or ~~and~~

$X_2 (\text{R}') \text{ Si}(\text{C}_n\text{H}_{2n-1})$ , wherein

X = Cl, or Br

R' = alkyl,

[[R' =]] cycloalkyl, and

n = 1 – 20;

e) Halogen organosilanes having ~~the~~ formulas  $X (\text{R}')_2 \text{ Si}(\text{C}_n\text{H}_{2n+1})$  ~~and~~ or

$X (\text{R}')_2 \text{ Si}(\text{C}_n\text{H}_{2n-1})$ , wherein

X = Cl, or Br;

R' = alkyl,

[[R' =]] cycloalkyl, and

n = 1 – 20;

f) Organosilanes having the formula  $(\text{RO})_3\text{Si}(\text{CH}_2)_m\text{-R}'$

$\text{R} = \text{alkyl},$

$m = 0, \text{ or } 1\text{-}20, \text{ and}$

$\text{R}' = \text{methyl-}, \text{ aryl-}, \text{-C}_6\text{H}_5, \text{ substituted phenyl groups},$

$\text{-C}_4\text{F}_9, \text{OCF}_2\text{-CHF-CF}_3, \text{-C}_6\text{F}_{13}, \text{-O-CF}_2\text{-CHF}_2,$

$\text{-NH}_2, \text{=N}_3, \text{-SCN}, \text{-CH=CH}_2, \text{-NH-CH}_2\text{-CH}_2\text{-NH}_2,$

$\text{-N-(CH}_2\text{-CH}_2\text{-CH}_2\text{NH}_2)_2,$

$\text{-OOC(CH}_3\text{)[[c]]C=CH}_2,$

$\text{-OCH}_2\text{-CH(O)CH}_2,$

$\text{-NH-CO-N-CO-(CH}_2\text{)}_5,$

$\text{-NH-COO-CH}_3, \text{-NH-COO-CH}_2\text{-CH}_3, \text{-NH-(CH}_2\text{)}_3\text{Si(OR)}_3,$

$\text{-S}_x\text{-(CH}_2\text{)}_3\text{Si(OR)}_3, \text{ where } x \text{ is one or more},$

$\text{-SH}, \text{ or}$

$\text{-NR}'\text{R}''\text{R}''', \text{ wherein } \text{R}' = \text{alkyl}, \text{ or aryl}; \text{ R}'' = \text{H}, \text{ alkyl}, \text{ aryl}; \text{ and } \text{R}''' = \text{H}, \text{ alkyl}, \text{ aryl},$

$\text{benzyl}, \text{ or } \text{C}_2\text{H}_4\text{N(R}''''\text{)}_2 \text{R}'''' \text{ with, wherein } \text{R}'''' = \text{H}, \text{ or alkyl and}$

$\text{R}'''' = \text{H}, \text{ or alkyl};$

g) Organosilanes having the formula  $(\text{R}'')_x (\text{RO})_y \text{Si}(\text{CH}_2)_m\text{-R}', \text{ wherein}$

$\text{R}'' = \text{alkyl}, \text{ or cycloalkyl},$

$x+y = 2,$

$x = 1, \text{ or } 2,$

$y = 1, \text{ or } 2,$

$m = 0$ , or 1 to 20, and

$R' =$  methyl-, aryl,  $-C_6H_5$ , substituted phenyl groups,

$-C_4F_9$ ,  $-OCF_2-CHF-CF_3$ ,  $-C_6F_{13}$ ,  $-O-CF_2-CHF_2$ ,

$-NH_2$ ,  $-N_3$ ,  $SCN$ ,  $-CH=CH_2$ ,  $-NH-CH_2-CH_2-NH_2$ ,

$-N-(CH_2-CH_2-NH_2)_2$ ,

$-OOC(CH_3)C=CH_2$ ,

$-OCH_2-CH(O)CH_2$ ,

$-NH-CO-N-CO-(CH_2)_5$ ,

$-NH-COO-CH_3$ ,  $-NH-COO-CH_2-CH_3$ ,  $-NH-(CH_2)_3Si(OR)_3$ ,

$-S_x-(CH_2)_3Si(OR)_3$ ,

$-SH$  , or

$-NR'R''R'''$ , wherein  $R' =$  alkyl; or aryl;  $R'' = H$ ,

alkyl, or aryl; and  $R''' = H$ , alkyl, aryl, benzyl, or

$C_2H_4N(R'''' )_2$   ~~$R''''$~~  with, wherein  $R'''' = H$ , or alkyl and

~~$R'''' = H$ , alkyl~~ ) ;

h) Halogen organosilanes having the formula  $X_3Si(CH_2)_m-R'$ , wherein

$X = Cl$ , or  $Br$ ,

$m = 0$ , 1 – 20,

$R' =$  methyl-, aryl-,  $-C_6H_5$ , substituted phenyl groups

$-C_4F_9$ ,  $-OCF_2-CHF-CF_3$ ,  $-C_6F_{13}$ ,  $-O-CF_2-CHF_2$ ,

$-NH_2$ ,  $-N_3$ ,  $SCN$ ,  $-CH=CH_2$ ,  $-NH-CH_2-CH_2-NH_2$ ,

$-\text{N}-(\text{CH}_2-\text{CH}_2-\text{NH}_2)_2$ ,  
 $-\text{OOC}(\text{CH}_3)\text{C}=\text{CH}_2$ ,  
 $-\text{OCH}_2-\text{CH}(\text{O})\text{CH}_2$ ,  
 $-\text{NH}-\text{CO}-\text{N}-\text{CO}-(\text{CH}_2)_5$ ,  
 $-\text{NH}-\text{COO}-\text{CH}_3$ ,  $-\text{NH}-\text{COO}-\text{CH}_2-\text{CH}_3$ ,  $-\text{NH}-(\text{CH}_2)_3\text{Si}(\text{OR})_3$ ,  
 $-\text{S}_x-(\text{CH}_2)_3\text{Si}(\text{OR})_3$ , where x is one or more, or  
 $-\text{SH}$ ;

i) Halogen organosilanes having the formula  $(\text{R})\text{X}_2\text{Si}(\text{CH}_2)_m-\text{R}'$ , wherein

$\text{X} = \text{Cl}$ , or  $\text{Br}$ ,

$\text{R} = \text{alkyl}$  such as methyl-, [[-]] ethyl-, or propyl-,

$m = 0$ , or  $1 - 20$ , and

$\text{R}' = \text{methyl-}$ , aryl-,  $-\text{C}_6\text{H}_5$ , substituted phenyl groups,

$-\text{C}_4\text{F}_9$ ,  $-\text{OCF}_2-\text{CHF}-\text{CF}_3$ ,  $-\text{C}_6\text{F}_{13}$ ,  $-\text{O}-\text{CF}_2-\text{CHF}_2$ ,

$-\text{NH}_2$ ,  $-\text{N}_3$ ,  $\text{SCN}$ ,  $-\text{CH}=\text{CH}_2$ ,  $-\text{NH}-\text{CH}_2-\text{CH}_2-\text{NH}_2$ ,

$-\text{N}-(\text{CH}_2-\text{CH}_2-\text{NH}_2)_2$ ,

$-\text{OOC}(\text{CH}_3)\text{C}=\text{CH}_2$ ,

$-\text{OCH}_2-\text{CH}(\text{O})\text{CH}_2$ ,

$-\text{NH}-\text{CO}-\text{N}-\text{CO}-(\text{CH}_2)_5$ ,

$-\text{NH}-\text{COO}-\text{CH}_3$ ,  $-\text{NH}-\text{COO}-\text{CH}_2-\text{CH}_3$ ,

$-\text{NH}-(\text{CH}_2)_3\text{Si}(\text{OR})_3$ ,

$-\text{S}_x-(\text{CH}_2)_3\text{Si}(\text{OR})_3$ , where x is one or more, or

-SH;

(j) Halogen organosilanes having the formula  $(R)_2X Si(CH_2)_m-R'$ , wherein

$X = Cl, \text{ or } Br,$

$R = \text{alkyl},$

$m = 0, \text{ or } 1 - 20, \text{ and}$

$R' = \text{methyl-}, \text{ aryl-}, -C_6H_5, \text{ substituted phenyl groups},$

$-C_4F_9, -OCF_2-CHF-CF_3, -C_6F_{13}, -O-CF_2-CHF_2,$

$-NH_2, -N_3, SCN, -CH=CH_2, -NH-CH_2-CH_2-NH_2,$

$-N-(CH_2-CH_2-NH_2)_2,$

$-OOC(CH_3)C=CH_2,$

$-OCH_2-CH(O)CH_2,$

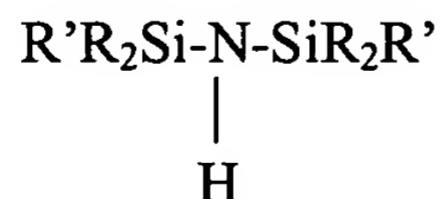
$-NH-CO-N-CO-(CH_2)_5,$

$-NH-COO-CH_3, -NH-COO-CH_2-CH_3, -NH-(CH_2)_3Si(OR)_3,$

$-S_x-(CH_2)_3Si(OR)_3, \text{ where } x \text{ is one or more, or}$

-SH;

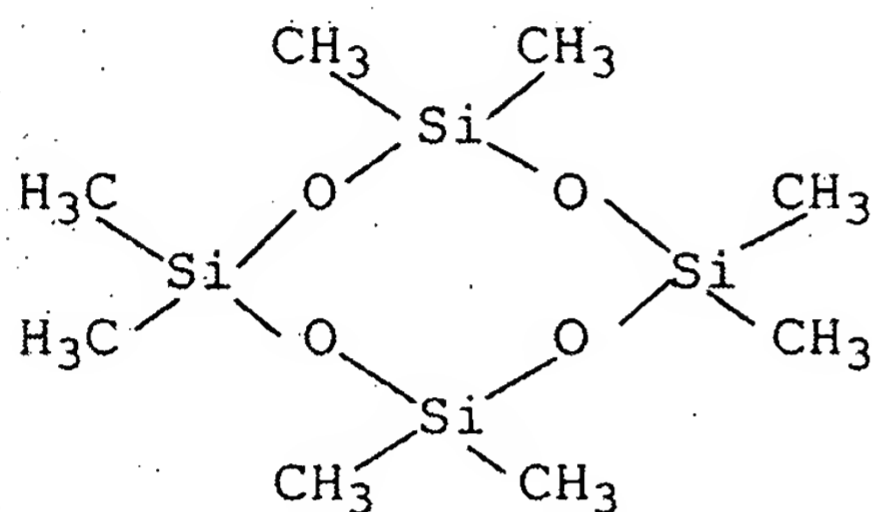
(k) Silazanes having the formula



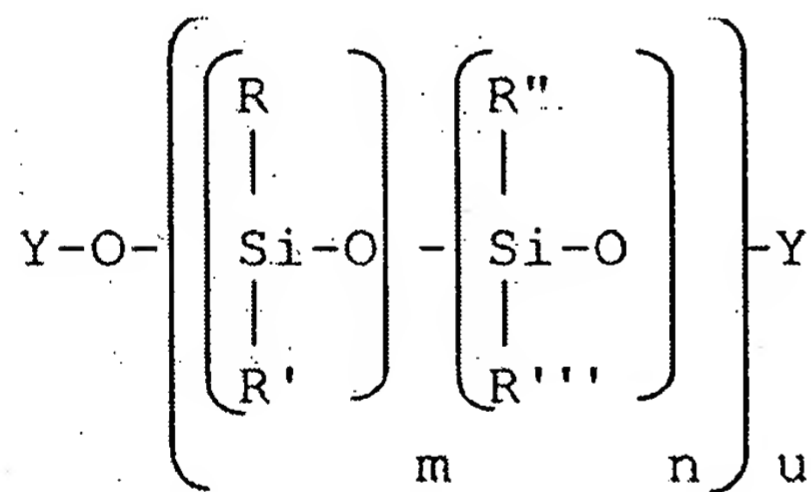
wherein  $R = \text{alkyl}, \text{ and}$

$R' = \text{alkyl}, \text{ or vinyl; or}$

(l) Cyclic polysiloxanes D 3, D 4 or D 5, where D4 has the formula:



m) Polysiloxanes or silicone oils having any one of the formula



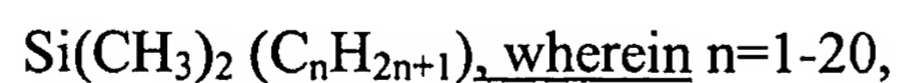
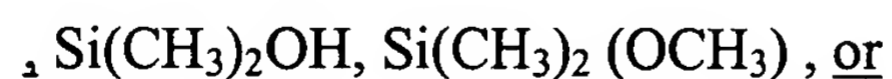
$$m = 0, 1, 2, 3, \dots, \infty$$

$$n = 0, 1, 2, 3, \dots, \infty$$

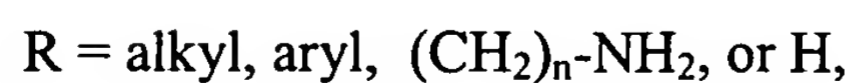
$$u = 0, 1, 2, 3, \dots, \infty$$

$$Y = CH_3, H, C_nH_{2n+1} \quad n=1-20$$

$$Y = Si(CH_3)_3, Si(CH_3)_2H$$



wherein,



$R' = \text{alkyl, aryl, } (CH_2)_n\text{-NH}_2, \text{ or H,}$

$R'' = \text{alkyl, aryl, } (CH_2)_n\text{-NH}_2, \text{ or H,}$

$R''' = \text{alkyl, aryl, } (CH_2)_n\text{-NH}_2, \text{ or H,}$

Claim 4 (Currently amended) A method of producing the surface-modified oxides in accordance with claim 3 ~~1-or-2~~, comprising placing pyrogenically produced oxides doped by aerosol in a suitable mixing container, spraying the oxides under intensive mixing with the surface-modification reagent or a mixture of several surface-modification reagents.

Claim 5 (Currently amended) In a reinforcing filler composition wherein the improvement comprises the surface-modified oxides according to claim 3 ~~1-or-2~~ as reinforcing filler.

Claim 6 (Original) The method of claim 4 wherein the spraying step includes spraying with water and/or acid prior to the spraying with the surface-modification reagent or a mixture of several surface-modification reagents.

Claim 7 (Original) The method of claim 4 further comprising re-mixing at 15 to 30 minutes and tempering at a temperature of 100 to 400 °C for a period of 1 to 6 hours.

Claim 8 (Original) The surface-modified, pyrogenically produced oxides according to claim 3 wherein the cyclic polysiloxanes is type D 4.

Claim 9 (Original) The surface-modified, pyrogenically produced oxides according to claim 8 wherein the type D4 cyclic polysiloxanes is octamethylcyclotetrasiloxane.